



## Tables

**Table S1.** Crystallite size based on XRD data (Scherrer's Equation) (average  $\pm$  standard deviation).

Sample	Crystallite size (nm)	
	Plane (311)	Plane (220)
MION	$6.4 \pm 0.6$	$6.4 \pm 0.3$
Co10-MION	$6.6 \pm 0.9$	$6.5 \pm 0.5$
Co20-MION	$6.5 \pm 1.0$	$7.3 \pm 0.2$
Co40-MION	$6.1 \pm 0.1$	$5.4 \pm 0.4$

## Figures

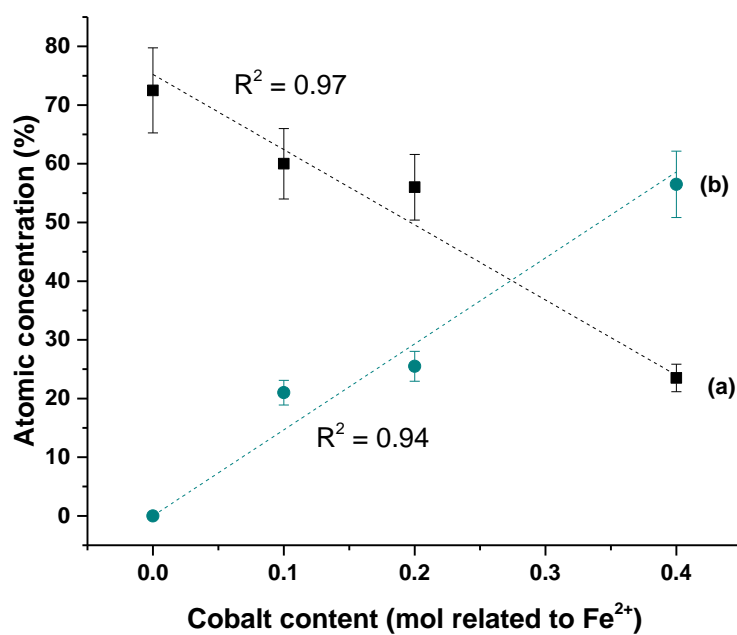


Figure S1. Evolution of atomic concentration of (a)  $\text{Fe}^{2+}$  and (b)  $\text{Co}^{2+}$  with increasing cobalt doping content.

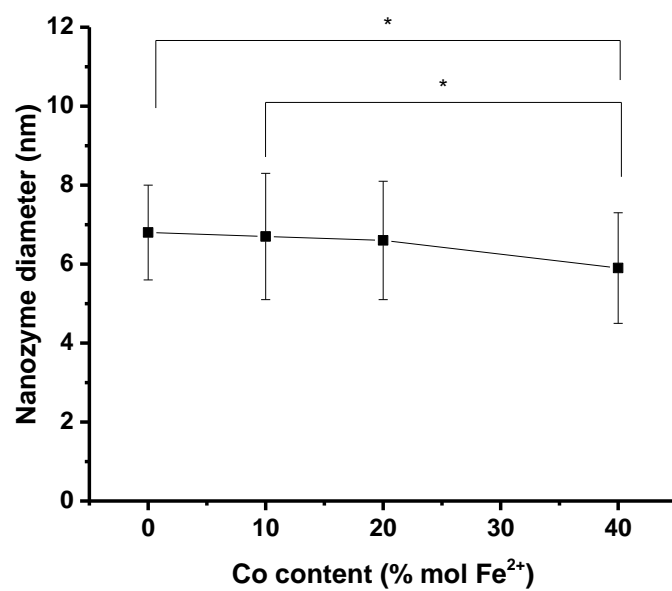
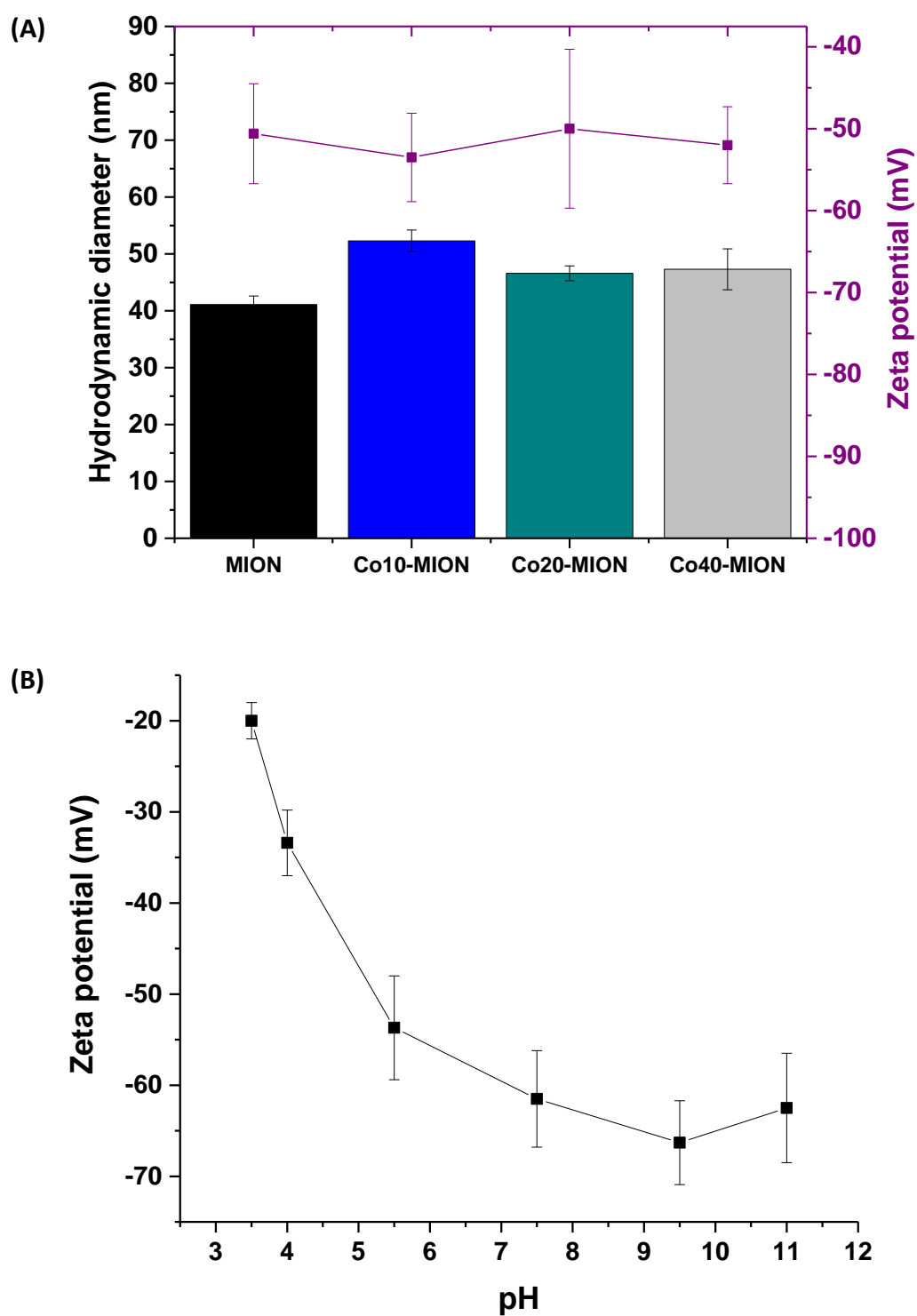
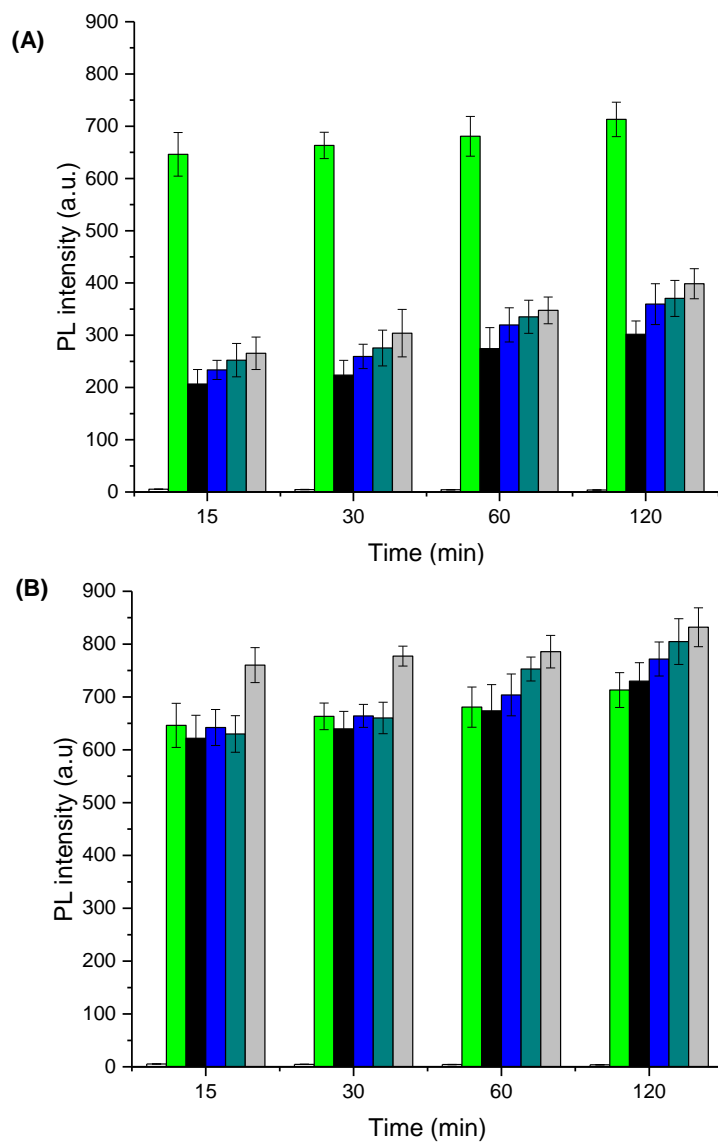


Figure S2. Diameter of nanozyme inorganic core as a function of Co content.



**Figure S3.** (A) Hydrodynamic diameter (columns) and Zeta potential (symbols/line) of nanozymes (average  $\pm$  standard deviation,  $n \geq 3$ ). (B) Zeta potential values of CMC as a function of pH (average  $\pm$  standard deviation,  $n \geq 3$ ).

- Control    
  + Control    
  MION    
  Co10-MION    
  Co20-MION    
  Co40-MION



**Figure S4.** Effect of cobalt content on ROS accumulation in GBM cells at 15 min, 30 min, 60 min, and 120 min after contact with nanozymes at concentrations of (A)  $0.6 \mu\text{g mL}^{-1}$  and (B)  $6 \mu\text{g mL}^{-1}$  of Fe+Co compared to DCF+cells ("-"negative control) and TBHP (positive "+" control). (average  $\pm$  standard deviation,  $n=5$ ).